Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/

DATE: 09-12-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (28 days Compressive Strength)
{Project*: Improvements to road and drains near Govt. School cross roads Thirumenahalli in Ward No.05}

Ref.: Letter No. Testing/BUB/2015-16, dated 08-12-2015

Sample supplied to lab by: Sri.N.Thirunagendra, Contractor, Bangalore.

Report required for: Assistant Executive Engineer, Byatarayanapura Sub-Division. BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

TABLE 1.1 :

Sl No	Location/ Identification *	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	10-11-15	08-12-15	28	22500	530	23.33	**23.70**
	002	"	"	"	"	535	23.77	
	003	"	"	"	"	540	24.00	

* As furnished by Client.
The Results relate only to the items tested.

AE-05 n/a

Assistant Executive Engineer
Byatarayanapura Sub Division
B.B.M.P. Bangalore

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Campus
BANGALORE UNIVERSITY
Bangalore-560 056.

ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು AE-05
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

9/12/2015

Dr. MANJESH .L
ME(Civil Engg.) Ph.D. MISTE, MIRC
Associate Professor
Department of Civil Engineering
Bangalore University. Jnanabharathi Campus,
BANGALORE 560 056.
E-mail: manjeshl@yahoo.com

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/

DATE: 15-12-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (28 days Compressive Strength)
{Project*: Improvements to road and drains near Govt. School cross roads Thirumenahalli in Ward No.05}

Ref.: Letter No. Testing/BUB/2015-16, dated 14-12-2015

Sample supplied to lab by: Sri.N.Thirunagendra, Contractor, Bangalore.

Report required for: Assistant Executive Engineer, Byatarayanapura Sub-Division. BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{20}

Location* : Covering Slab

TABLE 1.1 :

Sl No	Location/ Identification *	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	16-11-15	14-12-15	28	22500	500	22.22	**22.81**
	002	"	"	"	"	510	22.66	
	003	"	"	"	"	530	23.55	

* As furnished by Client.
The Results relate only to the items tested.

AE-05
Na
Assistant Executive Engineer
Byatarayanapura Sub Division
B.B.M.P. Bangalore

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Campus
BANGALORE UNIVERSITY
Bangalore-560 056.

Dr. MANJESH .L
ME(Civil Engg.) Ph.D.. MISTE, MIRC
Associate Professor
Department of Civil Engineering
Bangalore University. Jnanabharathi Campus,
BANGALORE 560 056.
E-mail: manieshl@yahoo.com

ಎ.ಇ-೦೫
ಬಬಾಯಪ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/ Date: 10-12-2015

TEST REPORT ON WET MIX MACADAM MIX
(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Improvements to road and drains near Govt. School cross roads Thirumenahalli in Ward No.05}

Ref.: Letter No. Testing/BUB/2015-16, dated 08-12-2015

Sample supplied to lab by: Sri.N.Thirunagendra, Contractor, Bangalore.

Report required for: Assistant Executive Engineer, Byatarayanapura Sub-Division. BBMP, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, IV Revision-2001
53.00	**100.00**	100
45.00	**96.30**	95-100
26.50	**---**	-
22.40	**75.00**	60-80
11.20	**43.00**	40-60
4.75	**35.00**	25-40
2.36	**24.00**	15-30
0.600	**17.60**	8-22
0.075	**4.60**	0-8

*As Furnished by Client.

The Results relate only to the items tested

AE-05 n/a

Assistant Executive Engineer
Byatarayanapura Sub Division
B.B.M.P. Bangalore

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Campus
BANGALORE UNIVERSITY
Bangalore-560 056.

AE-05

10/12/2015

Dr. MANJESH .L
ME(Civil Engg.) Ph.D. MISTE, MIRC
Associate Professor
Department of Civil Engineering
Bangalore University, Jnanabharathi Campus,
BANGALORE 560 056.
E-mail: maniesnl@yahoo.com

FOR QUALITY & EXCELLENCE IN HIGHER EDUCATION
Accredited by NAAC

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/ **Date: 18-12-2015**

TEST REPORT ON BITUMINOUS MIXES
(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: Testing of Bitumen Premix Sample (Semi Dense Bituminous Concrete-SDBC).
{Project*: Improvements to road and drains near Govt. School cross roads Thirumenahalli in Ward No.05}

Ref.: Letter No. Testing/BUB/2015-16, dated 16-12-2015

Sample supplied to lab by: Sri.N.Thirunagendra, Contractor, Bangalore.

Report required for: Assistant Executive Engineer, Byatarayanapura Sub-Division. BBMP, Bangalore.

TEST RESULTS:

1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = **5.09%**
2. **Gradation Test** :

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-15 of MORTH Specifications-2001 (Grading – 2)
13.2	**100**	100
9.5	**95.00**	90—100
4.75	**44.00**	35—51
2.36	**37.20**	24—39
1.18	**25.10**	15—30
0.3	**19.00**	09—19
0.075	**6.00**	03—08

* As furnished by Client.
The Results relate only to the items tested.

AE-05 n/a

Assistant Executive Engineer
Byatarayanapura Sub-Division
B.B.M.P. Bangalore

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Campus
BANGALORE UNIVERSITY
Bangalore-560 056.

18/12/2015
Dr. MANJESH .L
ME(Civil Engg.) Ph.D. MISTE, MIRC
Associate Professor
Department of Civil Engineering
Bangalore University. Jnanabharathi Campus,
BANGALORE 560 056.
E-mail: maniesnl@yahoo.com

AE-01
ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

FOR QUALITY & EXCELLENCE IN HIGHER EDUCATION
Accredited by NAAC

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/ **Date: 03-11-2015**

1. TEST REPORT ON REINFORCEMENT STEEL :

Sub: Testing of Reinforcement Steel of diameter 10mm.
{Project*: Improvements to road and drains near Govt. School cross roads Thirumenahalli in Ward No.05}

Ref.: Letter No. Testing/BUB/2015-16, dated 02-11-2015

Sample supplied to lab by: Sri.N.Thirunagendra, Contractor, Bangalore.

Report required for: Assistant Executive Engineer, Byatarayanapura Sub-Division. BBMP, Bangalore.

TABLE – 1

SL No	Details	For 10mm	
		Test Results	Min Req as per IS 1786-2008
01	Observed diameter of bar	**10.0mm**	10.0mm
02	Observed Wt/m Length **Kg/m**	**0.621**	0.567
03	Proof stress/Yield stress, fy , **N/mm^2**	**556.0**	500.0
04	Bend/ Re bend Test	**Ok**	---
05	Percentage of Elongation, %	**20.60**	12.00
06	Ultimate Tensile Strength **N/mm^2**	**628.0**	545.0

*As furnished by Client.
The Results relate only to the items tested.

AE-05
n/a

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Compus
BANGALORE UNIVERSITY
Bangalore-560 056.

ನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

3/11/2015

Dr. MANJESH .L
ME(Civil Engg.) Ph.D.. MISTE, MIRC
Associate Professor
Department of Civil Engineering
Bangalore University, Jnanabharathi Campus,
BANGALORE 560 056.
E-mail: maniesnl@yahoo.com

FOR QUALITY & EXCELLENCE IN HIGHER EDUCATION
★ ★ ★ ★ ★
Accredited by NAAC

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/ **Date: 06-11-2015**

1. TESTING OF COARSE AGGREGATES (40 mm):

Sub: Testing of Coarse Aggregates.
{Project*: Improvements to road and drains near Govt School Cross Roads Thirumenahalli in Ward No.05}

Ref.: Letter No. Testing/BUB/2015-16, dated 02-11-2015

Sample supplied to lab by: Sri.Thirunagendra, Contractor, Bangalore.

Report required for: Assistant Executive Engineer, Byatarayanapura Sub-Division. BBMP, Bangalore.

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	**Percentage passing**	**Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing**	
	40 mm Sample	***Single size***	***Graded***
40mm	98.00	85-100	95 – 100
20mm	66.30	0 -20	30- 70
10mm	24.50	0 -5	10- 35
4.75mm	Nil	------	0 - 5

TABLE 1 2 :

SL No	Test conducted	Sample No	**Results**	**Requirements** as per IS:383-1970 & Test Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2007)
1.	Flakiness Index	As above	14.30 %	Not to exceed 25 %
2.	Crushing value	----,,----	26.00 %	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

* As furnished by Client.
The Results relate only to the items tested.

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Campus
BANGALORE UNIVERSITY
Bangalore-560 056.

Dr. MANJESH .L
ME(Civil Engg.) Ph.D.. MISTE, MIRC
Associate Professor
Department of Civil Engineering
Bangalore University, Jnanabharathi Campus,
BANGALORE 560 056.
E-mail: maniesh1@yahoo.com

FOR QUALITY & EXCELLENCE IN HIGHER EDUCATION
Accredited by NAAC

BANGALORE UNIVERSITY
DEPARTMENT OF CIVIL ENGINEERING

Phone Off: 080-22961935 / 1946
E-mail: centrans9@gmail.com

JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/ **Date: 11-11-2015**

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Improvements to road and drains near Govt School Cross Roads Thirumenahalli in Ward No.05}
Ref.: Letter No. Testing/BUB/2015-16, dated 02-11-2015
Sample supplied to lab by: Sri.Thirunagendra, Contractor, Bangalore.
Report required for: Assistant Executive Engineer, Byatarayanapura Sub-Division. BBMP, Bangalore.

PHYSICAL TESTS ON CEMENT

Brand* : Birla
Grade * : 53
Type * : OPC
Date : 03-11-2015 to 10-11-2015

SL No	Name of Test	Results	Requirements as per
		Cement Sample	IS 12269-1987
1	Initial setting time	**155 min**	Shall not be less than 30 min
2	Final setting time	**250min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**2.30%**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**1.70 mm**	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results) b) 7 days (average of three results)	**29.60 N/ Sq mm** **42.30 N/Sq mm**	Shall not be less than 27 N/Sqmm Shall not be less than 37N/Sqmm

* As furnished by Client.
The Results relate only to the items tested.

G.R. HARISH
Professor
Department of Civil Engineering
Jnana Bharathi Campus
BANGALORE UNIVERSITY
Bangalore-560 056.

11/11/2015
Dr. MANJESH .L
ME(Civil Engg.) Ph.D., MISTE, MIRC
Associate Professor
Department of Civil Engineering
Bangalore University, Jnanabharathi Campus,
BANGALORE 560 056.
E-mail: maniesnl@yahoo.com